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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GEORGE, KEITH M

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/518,690

Applicant(s)

SUZUKI ET AL.

Examiner

Keith M. George

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-16 and 19-22 is/are rejected.
- 7) ☒ Claim(s) 17, 18 and 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/257,002.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

1. All objections and rejections of the previous Office Action mailed 16 July 2003 are hereby withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 12, 19 and 20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Terashima, U.S. Patent 6,385,232, hereinafter Terashima.
4. Referring to claim 12, Terashima teaches in figure 2 a first section of a signal spread by a long code (LC), then during a long code masked segment, a section of the signal spread by a common short code (CSC) (first short period code) and a group identification short code (GISC) (second short period code). Terashima goes on to teach that the common short code has a comparatively short cycle and the long code has a longer cycle than the common short code (column 2, lines 9-15).
5. Referring to claim 19, Terashima teaches in figure 2 a means for transmitting a control signal spread by a long code (LC) and a short code (CSC) in a data symbol section of one slot of a perch channel. Terashima also teaches in figure 2 the transmission of a common short code

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(CSC) and a group identification short code (GISC) in a long code masked segment. In figure 11C, Terashima goes on to teach the transmission of the CSC and GISC in different sections of a time slot that is divided into sections. Terashima also teaches that the timing detection processing of the long code using the common short code, the group identification processing of the long code using the group identification short code and the identification processing of the long code focusing the candidate onto the identified group are conducted in time series using the matched filter and the sliding correlator and basically each processing is conducted at different timing (column 5, line 66 - column 6, line 7).

6. Referring to claim 20, Terashima teaches the method described in reference to claim 19 above where it was clearly stated that the group identification processing of the long code uses the group identification short code (column 6, lines 1-3).

7. Claims 13, 14 and 21 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Sriram et al., U.S. Patent 6,226,315, hereinafter Sriram.

8. Referring to claim 13, Sriram teaches spread spectrum telephony (code division multiple access mobile communication system) with accelerated code acquisition. Sriram goes on to teach that an essential step in the handoff from one base station to another (mobile moves from one base station to another base station) is to acquire the received long code quickly. PN (long pseudo-noise code) acquisition is accomplished by intermittently broadcasting a symbol which is not encoded by the base station's long code (a long code masked symbol to detect a spread code and frame/slot timing). A long code masked symbol is broadcast once every ten symbols. Since there are 160 symbols in the complete long code, the long code masked symbols will be broadcast 16 times before the long code has repeated once. The receiver has to discover which

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of the 16 repetitions (a repetition of short codes) of the short code has been detected (column 2, lines 4-28). The short code contains identification data which gives some information about the long code itself (short codes corresponding to classification of a long code) (column 2, lines 39-48).

9. Referring to claim 14, Sriram teaches the method described in claim 13 above and also teaches that the method for sending information about the PN sequence over the perch channel in a CDMA system comprises a method that improves acquisition time by transmitting markers consisting of a short (e.g. 256 chip) Gold code. As shown in figure 2, the remaining portion of the perch channel is spread using the long code, defined as a pseudo-noise spread indicator with a long period, e.g. 40960 chips (column 3, lines 39-40).

10. Referring to claim 21, Sriram teaches spread-spectrum telephony with accelerated code acquisition. In order to facilitate the acquisition process (detecting a spread code and frame/slot timing), two "perch" channels are provided. Each perch channel has one "long code masked symbol," which is essentially a marker that appears periodically every 625 ms. As the name suggests, these marker symbols (a 256 chips long Gold code) are not spread by the long code. The traffic and control channels are spread using the same long code (A pseudo-noise spread indicator with a long period, e.g. 40960 chips (column 3, lines 39-40)) (a spreading factor of a long code masked symbol (256 chips) being made smaller than spreading factors of other data symbols (40960 chips) (column 6, line 64 - column 7, line 8).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 15, 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terashima in view of Sriram.

13. Referring to claim 15, Terashima teaches in figure 2 a control signal spread by a long code (LC) and a short code (CSC). In figure 2 Terashima also teaches a long code masked segment and a short code (CSC) that is transmitted at that time. Terashima possibly fails to teach a means for transmitting a repetition of short codes that correspond to a classification of a long code. Sriram, as was shown in reference to claim 13 above, teaches that the receiver has to discover which of the 16 repetitions of the short code have been detected (column 2, lines 25-27). Sriram goes on to teach that the short code contains identification data which gives some information about the long code itself (column 2, lines 39-48). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the repetition of short codes as taught by Sriram in the system of Terashima. One of ordinary skill in the art would have been motivated to do this it allows for a quicker acquisition of the long code which is highly desirable for the mobile unit (Sriram, column 1, lines 55-56).

14. Referring to claim 16, Terashima and Sriram teach the method described in reference to claim 15 above. Sriram has also shown in reference to claim 14 that the method for sending information about the PN sequence over the perch channel in a CDMA system comprises a

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method that improves acquisition time by transmitting markers consisting of a short (e.g. 256 chip) Gold code. As shown in figure 2, the remaining portion of the perch channel is spread using the long code, defined as a pseudo-noise spread indicator with a long period, e.g. 40960 chips (column 3, lines 39-40).

15. Referring to claim 22, Sriram teaches the method described in claim 21 above with the possible exception of the long code masked symbol including a CSC and a GISC and transmitting the CSC and the GISC in a time division fashion. Terashima teaches in figure 2 a long code masked segment that is used for transmission of a CSC and a GISC. Terashima also teaches in figure 11C, the CSC and GISC transmitted in a time division fashion. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to transmit the CSC and GISC during the long code masked segment in a time division fashion as taught by Terashima in the long code masked symbol taught by Sriram. One of ordinary skill in the art would have been motivated to do this in order to identify the codes to be detected at high speeds (Terashima, column 6, lines 19-22).

Allowable Subject Matter

16. Claims 17, 18 and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Higuchi et al., U.S. Patent 6,167,037, teaches achieving high speed spreading code synchronization of a forward link control channel.
- b. Yoneyama, U.S. Patent 6,459,724, teaches a perch channel slot timing detection method and circuit in a W-CDMA scheme.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith M. George whose telephone number is 703-305-6531. The examiner can normally be reached on M-Th 7:00-4:30, every other F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 703-308-5340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.



Keith M. George
20 August 2003



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
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